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A CHEAP ROCK POLISHING MACHINE

A SMALL high-speed carborundum wheel, clamped to one of our work tables, has long been used for its obvious purposes. It may interest those geologists and paleontologists who have not stumbled on to the same fact to know that this machine offers a most efficient and rapid method of obtaining a polished section of a rock or a fossil. My attention was first called to this use of the machine during a conference with Mr. Robert Harvie on the organic identification of some obscure markings in a calcareous sandstone. By splitting the rock in an ordinary screw press and holding the desired portion of the exposed face against the side of the wheel, for which purpose there is a convenient rest, three flat sections were made and studied in as many minutes. The method is somewhat crude, but efficient, and may have wide application. A higher polish could be secured by using wheels of differing degrees of fineness.

LANCASTER D. BURLING

GEOLOGICAL SURVEY OF CANADA

THE SMITHSONIAN PHYSICAL TABLES

TO THE EDITOR OF SCIENCE: The Smithsonian Institution has just published a new edition of the Smithsonian Physical Tables, corrected and slightly modified from the sixth revised edition. Requests have come from certain educational institutions for separate copies of certain individual tables for the use of students in laboratories. If there is likely to be a considerable demand for such separates, the institution will have them printed on stiff paper and distributed at cost to those who desire them. With a view to ascertaining the probable demand for separate tables, it is requested that readers of SCIENCE inform the institution which tables they would desire in separate form and the number of copies of each they would require. All tables for which the probable demand of this kind reaches 100 copies will be reprinted separately. The tables may be consulted in nearly all of the larger libraries.

C. D. WALCOTT,
Secretary

SCIENTIFIC BOOKS

Temperatur und Lebensvorgänge. VON ARISTIDES KANITZ. Verlag von Gebrüder Borntraeger, Berlin. s.s. 175 mit 11 textfiguren. 1915.

"Temperatur und Lebensvorgänge" is the first of a series of biochemical monographs (*Die Biochemie in Einzeldarstellungen*), written by specialists, to be published by Gebrüder Borntraeger under the editorship of Aristides Kanitz. The series will treat of biological chemistry in its broadest sense and is comparable to the English monographs on Biochemistry edited by Plimmer and Hopkins.

It has been known for a long time that temperature has a very great influence on life processes, but only within recent years has a quantitative study been made and the values obtained compared with the effect of temperature on various physical and chemical processes. According to Kanitz the first quantitative studies were made by Clausens in 1890 on the carbon dioxide production of seedlings and the results interpreted by van't Hoff in terms of his rule—that the velocity of chemical reactions increases two- to three-fold for every ten degrees rise in temperature. Since that time many quantitative temperature investigations have been carried out with special reference to van't Hoff's rule or the RGT (*Reaktionsgeschwindigkeit*) rule as Kanitz prefers to call it. These investigations are systematically recorded in the book, which is unusually complete. Often the original data are given and always the value of Q_{10} , which indicates the rate of increase of any physiological process for a 10° C. rise of temperature. References are made to 363 original papers and the book contains both a subject and an author's index, besides a table of contents, so that any subject may be found with the greatest ease. The effect of temperature on various rhythmic processes, as heart beat, breathing, contractile vacuoles and contraction of medusæ; on the rate of the nerve impulse, muscle contraction, electromotive force of bioelectric currents, geotropic and phototropic reactions, protoplasmic streaming, permeability, effect of poisons, the length of life, rate of